

REMARKS

The Applicants submit the following remarks in response to the Office Action mailed July 14, 2008, which rejected claims 10-14, 16-21, 24-41, 43-54, and 56-69. The amendments above and remarks that follow address all of the points raised in the Office Action and are believed to place all pending claims in condition for allowance.

I. Amendments to the Claims

In order to clarify their contribution to the art, Applicants have amended claim 10 to recite, *inter alia*, a range of applied EMR of about 360 nm to less than 600 nm, and to specify that the EMR is applied to a skin treatment area to deposit energy in one or more hair tips in the area so as to cause heating of at least a portion of said hair tips so as to modify a shape of at least a portion of said hair tips, the EMR applied to the respective hairs being less than necessary to remove the respective hairs, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area. Support for these amendments can be found, among other places, at paragraphs 9 and 51 of the application as published (U.S. Patent Publication 2004/0230258).

Applicants have also amended claim 38 to recite, *inter alia*, a range of applied electromagnetic radiation having wavelength components in at least one of a range of about 380 nm to less than 600 nm and a range of about 1350 nm to about 2700 nm, and to specify that the electromagnetic radiation is applied to a skin treatment area to deposit energy in one or more hair shafts in the treatment area so as to cause a change in elasticity of said hair shafts, the electromagnetic radiation applied to the one or more hair shafts being less than necessary to remove the respective hair shafts, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area. Support for these amendments can be found, among other places, at paragraph 60 of the application as published.

Further, Applicants have amended claims 21, 48 and 51 to correct minor typographical errors, cancelled claims 45, 46, 65 and 66, and added new claims 70-73. Support for the new claims can be found in the application-as-published at least in paragraph 51.

No new matter is added.

Amendment of the claims should in no way be construed as an acquiescence to any of the Examiner's rejections and has been done solely to more particularly point out and distinctly claim the invention, and to expedite the prosecution of the application. Applicants reserve the right to pursue the claims as originally filed in this or a separate application(s).

II. Objections to the Drawings

The Office Action maintains the objections to Figures 1, 2, 3a, 3b, 7a, 7b, 7c, and 8-13, on the grounds that they contain photocopies, poor shading, and lack labels. Applicants submitted replacement sheets on March 21, 2008 which are believed to remedy these issues. Accordingly, Applicants request withdrawal of the objections. If the Examiner disagrees or requires another submission, Applicants request that he contact the undersigned at the earliest opportunity to discuss the any remaining objections to the replacement sheets.

III. Rejections Under 35 U.S.C. 102(b)

A. Rejections Based on Azar

The Office Action rejects claims 10-14, 16-19, 21, 24-28, 32, 36-39 and 43 under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,187,001 of Azar et al. (“Azar”).

Azar is directed to a hair removal method in which a region of skin is disposed in a cavity 11 in which a volume of air is enclosed (see Figure 4 of Azar, reproduced below). The air in the cavity 11 is heated by a heat source, such as a flash lamp, to provide a sufficiently high temperature to “kill any hair within the cavity.” (Col. 1, lines 54-56.) In some cases, “a heat gradient, having a higher temperature at the end of the air volume adjacent the flash lamp and a lower temperature at the end of the air volume adjacent the skin, is formed.” (Col. 1, lines 59-62). In such cases, “[t]he parts of the hairs closer to the flash lamp are heated by the hot air resulting in removal of at least part of the hairs.” (Col. 1, lines 62-64.) Further, in some cases, broadband radiation emitted by the heat source (e.g., flash lamp) can heat the portions of the hairs within the follicles, thus facilitating the heating of the hair follicles to a coagulation temperature. (Col. 1, lines 63-65.)

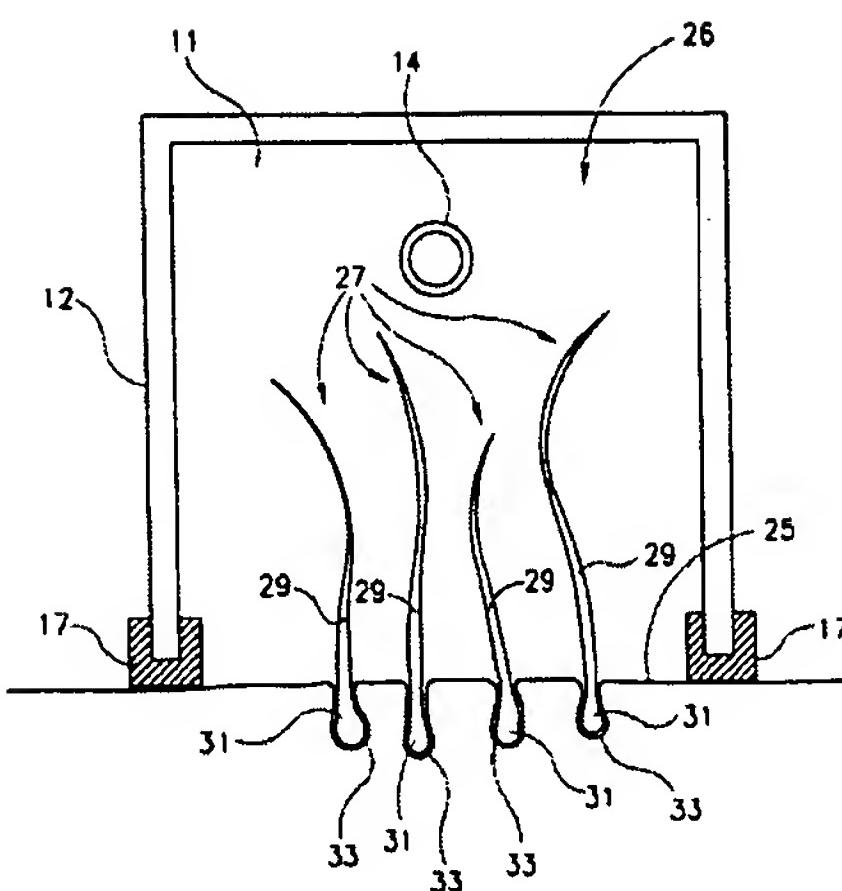


FIG. 4

1. Claim 10

Claim 10, as amended, discloses a hair treatment method that includes applying electromagnetic radiation (EMR) in a range of about 360 nm to less than 600 nm to a skin treatment area to deposit energy in one or more hair tips in the area so as to cause heating of at least a portion of said hair tips *so as to modify a shape* of at least a portion of said hair tips, the EMR applied to the respective hairs being less than necessary to remove the respective hairs, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area.

Azar fails teach or suggest the subject matter of claim 10 as amended. For example, Azar teaches hair removal and does not teach or suggest preventing, reducing, or treating pseudofolliculitis barbae (PFB) in the skin treatment area by applying electromagnetic radiation (EMR) in a range of about 360 nm to less than 600 nm to cause heating of at least a portion of one or more hair tips so as to modify a shape of at least a portion of said hair tips, the EMR applied to the respective hairs being *less than necessary to remove the respective hairs*.

To the contrary, Azar is directed to applying energy that results in *hair removal*, and therefore teaches away from the claimed PFB treatment that applies EMR that is *less than necessary* to remove treated hairs.

The Office Action contends that Azar's hair treatment uses the same parameters as the hair treatment recited in claim 10 and therefore will produce the same results as the claimed hair treatment. The claimed hair treatment is not the same as Azar's at least because the claimed hair treatment requires the application of EMR that is less than necessary to remove hair. The Office

Action mistakenly equates Azar's hair treatment with the claimed hair treatment by comparing only a single parameter (wavelength), rather than considering Azar's hair treatment as a whole.

Azar applies a broadband light pulse within an enclosed cavity 11 held against the skin for a time and in such a way as to destroy hairs 27 by coagulating blood capillaries supplying the follicle 33. (Columns 7, lines 10-20, 51-67.) The result of Azar's treatment – taken in its entirety – is that “the temperature reached by many of the hairs at parts which are closer to flash lamp are *sufficiently high to cause burning or carbonization of a substantial portion of the hair* thus effectively removing a substantial portion of the hair.” (Col. 8, lines 1-5.) (Emphasis added.)

In contrast, the hair treatment recited in claim 10 involves applying radiation *without removing hairs*. More specifically, it involves applying electromagnetic radiation with wavelengths in a range of about 360 nm to less than 600 nm to a skin treatment area so as to cause heating of at least a portion of said hair tips and modify a shape of at least a portion of said hair tips, the EMR applied to the respective hairs being less than necessary to remove the respective hairs, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB).

Azar does not recognize that parameters for hair treatment, such as EMR, can be selected to avoid removing hair; Azar teaches away from a method that fails to remove at least some hair. Further, Azar fails to teach or suggest a hair treatment that avoids removing hair and that modify hair tips to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area.

For at least these reasons, claim 10 is allowable over Azar.

2. Claims 11-14, 16-19, 21, 24-28, 32, 36-37

Each of claims 11-14, 16-19, 21, 24-28, 32, 36-37 depends directly or indirectly from claim 10, and are allowable over Azar for at least the reasons already stated in connection with that claim.

3. Claim 38

Amended independent claim 38 recites a method of treating hair that includes applying electromagnetic radiation having wavelength components in at least one of a range of about 380 nm to less than 600 nm and a range of about 1350 nm to about 2700 nm to a skin treatment area to deposit energy in one or more hair shafts in the treatment area so as *to cause a change in elasticity* of said hair shafts, the electromagnetic radiation applied to the one or more hair shafts

being less than necessary to remove the respective hair shafts, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area.

The arguments presented above in connection with claim 10 apply with equal force here to establish that claim 38 is also allowable over Azar. For example, Azar fails to teach or suggest a method of treating hair that includes applying electromagnetic radiation to a skin treatment area to deposit energy in one or more hair shafts in the treatment area so as to cause a change in elasticity of said hair shafts, *the electromagnetic radiation applied to the one or more hair shafts being less than necessary to remove the respective hair shafts, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area.*

For at least these reasons, claim 38 is allowable over Azar.

4. Claims 39 and 43

Each of claims 39 and 43 depend directly or indirectly from claim 38 and is allowable over Azar for at least the reasons already stated in connection with that claim.

B. Rejections Based on Altshuler

The Office Action rejects claims 38, 44, and 49-53, 58 and 59 under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,273,884 of Altshuler (“Altshuler”). Applicants traverse.

1. Claim 38

Altshuler does not teach a method of treating hair that includes applying electromagnetic radiation having wavelength components in at least one of a range of about 380 nm to less than 600 nm and a range of about 1350 nm to about 2700 nm to a skin treatment area to deposit energy in one or more hair shafts in the treatment area *so as to cause a change in elasticity* of said hair shafts, the electromagnetic radiation applied to the one or more hair shafts being less than necessary to remove the respective hair shafts, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area, as recited in claim 38.

Rather, Altshuler discloses applying wavelengths, e.g., in a range of 600-1200 nm, to heat the skin and/or at least part of the hair follicles, e.g., the hair bulb. (See col. 5, lines 61-62; col. 11, lines 35-36; col. 12, lines 26-28.)

For at least these reasons, claim 38 is allowable over Altshuler.

2. Claims 44 and 49-50

Each of claims 44 and 49-50 depends either directly or indirectly from claim 38 and are allowable over Altshuler for at least the reasons already stated in connection with that claim.

3. Claim 51

Applicants' specification states at paragraphs 65-66 of the application as published that "for darker skin types, treatment with wavelengths shorter than 1200 nm can result in unwanted side effects, such as epidermal damage. To overcome these drawbacks, the present invention recognizes that the wavelength range between about 1200 nm and about 1400 nm can be used to modify hair growth."

Claim 51 recites "applying electromagnetic radiation having wavelength components in a range of greater than 1200 nm to about 1400 nm to one or more hair follicles in a skin treatment area so as to modulate hair growth, and prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area."

Altshuler does not teach the special advantages recognized and achieved by the method of claim 51 in modulating hair growth, and preventing, reducing, or treat pseudofolliculitis barbae (PFB) in a skin treatment area.

For at least these reasons, claim 51 is allowable.

4. Claims 52-53, 58 and 59

Each of claims 52-53, 58 and 59 depends directly or indirectly from claim 51 and are allowable over Altshuler for at least the reasons already stated in connection with that claim.

C. Rejections Based on McDaniel

The Office Action rejects claims 38-41, 44, 47-50, 60-64 and 67-69 under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,283,956 of McDaniel ("McDaniel").

McDaniel discloses a process for skin treatment in which an agent is applied to the skin so that the agent penetrates the skin and bonds to or becomes incorporated into the hair shaft, the hair follicle, the hair bulb, or the hair duct, before the electromagnetic radiation is applied. The skin portion to which the agent is applied can then be exposed to electromagnetic radiation to cause "injury, damage or destruction of the hair follicle, hair bulb or the supporting skin tissue, thereby delaying regrowth of the hairs, or diminishing the hair shaft diameter, or miniaturizing the hair follicles or completely destroying these tissues, resulting in permanent hair removal." (Col. 4, lines 61-66.) McDaniel states that in some embodiments its process can be used to *stimulate* hair follicles "to grow, to have their growth cycle accelerated, to prolong the hair growth cycle, to increase the hair shaft diameter, to change the hair shaft color, to stimulate hairs that are in a dormant state or which originate from an area of hair loss or baldness ..." (Col. 6, lines 58-61.)

1. Claim 38

McDaniel does not teach a method of treating hair that includes applying electromagnetic radiation *having wavelength components in at least one of a range of about 380 nm to less than 600 nm and a range of about 1350 nm to about 2700 nm* to a skin treatment area.

Moreover, McDaniel does not teach depositing energy in one or more hair shafts in the treatment area *so as to cause a change in elasticity* of said hair shafts, the electromagnetic radiation applied to the one or more hair shafts being less than necessary to remove the respective hair shafts, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area, as recited in claim 38.

Rather, McDaniel discloses a wavelength range of 750 – 1000 nm, a laser that produces radiation at 1064 nm, and removing hairs or stimulating hair growth. (Col. 5, line 47; col. 6, line 19.)

For at least these reasons, claim 38 is allowable over McDaniel.

2. Claims 40-41, 44 and 47-50

Each of claims 40-41, 44 and 47-50 depends directly or indirectly from claim 38 and are allowable over McDaniel for at least the reasons already stated in connection with that claim.

3. Claim 60

Claim 60 recites a method of treating hair by irradiating a plurality of hair follicles in a treatment area with radiation of a wavelength, and fluence *suitable for decreasing curliness* of at least a portion of the hairs, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) where the radiation wavelength *is in a range of about 380 nm to about 600 nm*.

McDaniel does not teach or suggest wavelengths in a range of about 380 nm to about 600 nm, as recited in claim 60. Rather, McDaniel discloses a wavelength range of 750 – 1000 nm and a laser that produces radiation at 1064 nm. (Col. 5, line 47; col. 6, line 19.)

For these reasons, among others, claim 60 is allowable over McDaniel.

4. Claims 61-64 and 67-69

Each of claims 61-64 and 67-69 depends directly or indirectly from claim 60, and are allowable over McDaniel for at least the reasons already stated in connection with that claim.

IV. Rejections Under 35 U.S.C. 103(a)

The Examiner rejects claims 10-14, 29-37, 51-54 and 56-59 under 35 U.S.C. § 103 as allegedly unpatentable over Altshuler in view of McDaniel.

A. Claim 10

Neither Altshuler and McDaniel, alone or in combination, teach or suggest the subject matter of claim 10. For example, neither Altshuler nor McDaniel teaches or suggests, among other things, a hair treatment method that includes applying electromagnetic radiation (EMR) in a range of *about 360 nm to less than 600 nm* to a skin treatment area, as recited in that claim. As previously discussed, Altshuler discloses applying wavelengths, e.g., in a range of 600-1200 nm, to heat the skin and/or at least part of the hair follicles, e.g., the hair bulb. (See col. 5, lines 61-62; col. 11, lines 35-36; col. 12, lines 26-28.). McDaniel discloses a wavelength range of 750 – 1000 nm, a laser that produces radiation at 1064 nm, and removing hairs or stimulating hair growth. (Col. 5, line 47; col. 6, line 19.)

For at least these reasons, claim 10 is allowable over Altshuler and McDaniel.

B. Claims 11-14 and 29-37

Each of claims 11-14 and 29-37 depends directly or indirectly from claim 10 and are allowable for at least the reasons already stated in connection with that claim.

C. Claim 51

Neither Altshuler and McDaniel, alone or in combination, teach or suggest the subject matter of claim 51. Claim 51 recites “applying electromagnetic radiation having wavelength components in a range of greater than 1200 nm to about 1400 nm to one or more hair follicles in a skin treatment area so as to modulate hair growth, and prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area.”

Neither Altshuler or McDaniel alone or in combination teach the special advantages recognized and achieved by the method of claim 51 in modulating hair growth, and preventing, reducing, or treat pseudofolliculitis barbae (PFB) in a skin treatment area.

For at least these reasons, claim 51 is allowable.

D. Claims 52-54 and 56-59

Each of claims 52-54 and 56-59 depends directly or indirectly from claim 51 and are allowable for at least the reasons already stated in connection with that claim.

V. New Claims 70-73

Applicants have introduced new claims 70-73.

Claims 70, 71, 72 and 73 depend from independent claims 10, 38, 51, and 60, respectively, and each is allowable at least for the reasons presented above in connection with the claim from which it depends.

VI. Conclusion

In view of the above amendments and remarks, Applicants respectfully request reconsideration and allowance of the application.

In the event that the remarks are not deemed to overcome the grounds for rejection, Applicants kindly request a telephonic interview to discuss the remaining issues. In such case, the Examiner is kindly requested to telephone the undersigned representative at the earliest convenience

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 141449, under Order No. 105090-230.

Respectfully submitted,

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